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FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			CAVALLARI, DANIEL J	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/743,345	WIEDEMUTH ET AL.	
	Examiner Daniel J. Cavallari	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 18 June 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 and 3-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1 and 3-51 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 23 December 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 6/18/2007.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/18/2007 has been entered.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 6/18/2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Arguments

Applicant's arguments, see 11-17, filed 6/18/2007, with respect to the objection to the drawings, 112 first paragraph rejection have been fully considered and are persuasive in view of the specification and claim amendments. The previous made drawings objections and 112 first paragraph rejections have been withdrawn.

The Examiner notes that upon further review, new drawing objections and 112 first paragraph issues have been found and are fully explained below.

Applicant's arguments with respect to claims 1 & 3-45 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

The drawings are objected to for the following reasons:

- The components of the drawings are not depictive or representative of actual components making them confusing and therefore the components should be labeled with it's descriptive name (ie, resistor, controller, interlock) along with the reference number thereby making the drawings comprehensible on there own.
- The drawings fail to show a plasma load of a gas discharge application.

Claim Objections

Claim 14 is objected to because of the following informalities:

In regard to Claim 14

- Claim 14 recites "the measuring signals" however "measuring signals" are not previously disclosed therefore there is a lack of antecedent basis for this claim.

The claim will be examined as best understood to mean "wherein measuring signals"

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 & 3-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In regard to Claims 1, 24, & 42

Claims 1, 24, & 42 recite providing the output power to a plasma load of a plasma gas discharge application however such a configuration is not explained. The Examiner notes that a "plasma plant" is mentioned in the Specification (See Page 9, Lines 27-31) however the recitation fails to state any physical or actual constructive configuration of the power supply to support the particulars of a "plasma plant". Therefore, the claims will be examined as best understood in which any power supply which meets the other claim limitations is similarly "configured to" supply a plasma load of a plasma gas discharge application seeing as the specification and claims are silent in regard to any particulars of said configuration.

In regard to Claims 50 & 51

Claim 50 recites, "reconfiguring the established electrical connection" and claim 51 further recites "wherein reconfiguring comprises changing the electrical connection between the multiple first current supply modules". The Examiner notes that the specification fails to describe how this method is performed and the method fails to provide any physical configuration or components associated with said "reconfiguration". It is unclear what is meant by "reconfiguring" and the limitations provided by claim 51 which state "wherein reconfiguring comprises changing the electrical connection" is unclear as to how and what exactly is changed and is further not supported by the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 6-10, 18, 20, 24, 26-30 & 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Caruthers et al. (US 2004/0208029).

In regard to Claims 1 & 4

A current supply system comprising:

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- A plurality of current supply modules (24a-d, See Figure 1), wherein each current supply module includes an input terminal and an output terminal and each current supply module has a maximum output power (250KW), and wherein multiple current supply modules are electrically combined to form a current supply unit having a maximum output power that is greater than the maximum output power of the individual current supply modules (1MW), wherein the current supply unit output power is configured to supply a plasma load of a plasma gas discharge application.
- A control unit connected to the current supply unit (22).
- A data connection (30) for connecting the control unit to all the current supply modules of the current supply unit.

The Examiner notes that language of "adapted to" and "capable of" performing a particular function is not a positive limitation but only requires the ability to so perform as in the case of "configured to supply a plasma load of a plasma gas discharge application" wherein the reference cited is configurable to be connected to a gas discharge application and therefore reads on the claimed invention. *In re Hutchinson, 69 USPQ 138.*

In regard to Claim 3

- Wherein the current supply modules are power converters (See Paragraph 10).

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In regard to Claims 6 & 26

- Wherein each current supply module (24a, 26d) includes a receptacle (26a, 26d) for receiving the control unit (22), and wherein exactly one current supply module of each current supply unit [The Examiner notes one unit comprises 24a & 24b and the other unit comprises 24c & 24d) receives the control unit.

In regard to Claims 7, 8, 27 & 28

- Wherein the current supply module that receives the control unit is adapted for connection to an external controller (read on by "PC Service Tool", See Figure 1).

In regard to Claims 9, 10, 29 & 30

- Wherein the control unit (22) is adapted for connection to an external controller (read on by "PC Service Tool", See Figure 1).

In regard to Claim 18

- An output electrical conductor (34, See Figure 1) for electrically connecting the current supply modules of the current supply unit at an output side; wherein the output electrical connector electrically connects the output terminals of two neighboring current supply modules.

In regard to Claims 19, 20 & 37

- Wherein two or more current supply modules of the current supply unit are electrically connected at an input side (See Figure 1) wherein all the modules are electrically connected at the input side.

In regard to Claim 24

- See arguments to Claim 1 & 18 above.

Claims 1, 4, 11-14, 16, & 31-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Hobrecht et al. (US 6,674,274).

In regard to Claim 1

A current supply system comprising:

- A plurality of current supply modules (181-184, See Figure 7), wherein each current supply module includes an input terminal and an output terminal and each current supply module has a maximum output power and wherein multiple current supply modules are electrically combined to form a current supply unit (read on by 181 and 182 forming one current supply module, 183 and 184 forming another current supply module) having a maximum output power that is greater than the maximum output power of the individual current supply modules [The Examiner notes that by Kirchoff's current law, the maximum power outputted from the parallel sources is greater than the individual maximum power

from the power supplies under the principal that current is additive and that the present situation is therefore commonly referred to as an adder], wherein the current supply unit output power is configured to supply a plasma load of a plasma gas discharge application.

- A control unit connected to the current supply unit (read on by the feedback circuitry, See Column 3, Lines 40-60).
- A data connection (read on by the connection of the output VDIS as well as the feedback connection from the output to the input of the controller (eg. 18), See Figure 7) for connecting the control unit to all the current supply modules of the current supply unit.
- An output electrical conductor (read on by the common output bus, See Figure 7) for electrically connecting the current supply modules of the current supply unit at an output side; wherein the output electrical connector electrically connects the output terminals of two neighboring current supply modules.

The Examiner notes that language of "adapted to" and "capable of" performing a particular function is not a positive limitation but only requires the ability to so perform as in the case of "configured to supply a plasma load of a plasma gas discharge application" wherein the reference cited is configurable to be connected to a gas discharge application and therefore reads on the claimed invention. *In re Hutchinson, 69 USPQ 138.*

In regard to Claims 11 & 31

- Wherein each current supply module includes a measuring device (read on by 56, Figure 11) for measuring a current supply module output quantity.

In regard to Claims 12 & 32

- Wherein the output quantity is selected from the group consisting of a voltage, a current, and a power (the Examiner notes that the output voltage is measured and supplied to the output Vout and comparator (60), See Figure 11).

In regard to Claims 13 & 33

- Wherein each measuring device includes a measuring component for measuring an analog output quantity (read on by 60) and converting the analog output quantity into a voltage (as applied to the PWM circuitry), a signal matching circuitry (read on by the PWM circuitry, 64) for converting the voltage from the respective measuring component, a voltage/current converter (read on by switches 54, 55) for converting the output voltage of the signal matching circuit into a current, and a resistor (58) for generating a voltage drop (See Figure 11).

In regard to Claims 14 & 34

- Wherein measuring signals of the current supply modules are supplied to the control unit of the current supply unit of the current supply unit in parallel via the data connection (read on by the feedback from Vfb, See Figure 1).

In regard to Claim 16

- Wherein the current supply modules are current sources (The Examiner notes that the current supply module in fact do supply current thereby reading on "current sources").

Claims 1, 18, 22, 23, 24, 40, 41, 44, 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer (US 4,992,925)

In regard to Claims 1, 18, & 24

A current supply system comprising:

- A plurality of current supply modules (6-8, See Figure 1), wherein each current supply module includes an input terminal (attachment to bus 9 \$ 10) and an output terminal (23-25) and each current supply module has a maximum output power and wherein multiple current supply modules are electrically combined to form a current supply unit having a maximum output power that is greater than the maximum output power of the individual current supply modules [The Examiner notes that by Kirchoff's current law, the maximum power outputted from the parallel sources is greater than the individual maximum power from the power supplies under the principal that current is additive and that the present situation is therefore commonly referred to as an adder], wherein the current supply unit output power is configured to supply a plasma load of a plasma gas discharge application.

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- A control unit (48) connected to the current supply unit (See Column 4, Lines 10-26 & Figure 3).
- A data connection (29, Figure 1 & Column 3, Lines 35-45) for connecting the control unit to all the current supply modules of the current supply unit.
- An output electrical conductor (read on by the conductor connecting the outputs via 44, See Figure 3) for electrically connecting the current supply modules of the current supply unit at an output side; wherein the output electrical connector electrically connects the output terminals of two neighboring current supply modules.

The Examiner notes that language of "adapted to" and "capable of" performing a particular function is not a positive limitation but only requires the ability to so perform as in the case of "configured to supply a plasma load of a plasma gas discharge application" wherein the reference cited is configurable to be connected to a gas discharge application and therefore reads on the claimed invention. *In re Hutchinson, 69 USPQ 138.*

In regard to Claims 22 & 40

- Wherein the input terminal includes a plurality of connectors (bus 9 and bus 10) that correspond to a number of phases of a power line connection (11, 12, & 13), and the output terminal includes two connectors (connector 23 [the output side] and the other not labeled [the connection to the converter]) but which are disposed in different conductor planes (read on by the input conductor plane to

the converter and the other being the output conductor plane), and through which the conductors may be connected to corresponding connectors of neighboring current supply modules (via 44, See Figure 3).

In regard to Claims 23 & 41

- Insulative distribution elements (read on by the buses) for connecting the conductors with the terminals, wherein the distribution elements each comprise receptacles for receiving ends of the conductors (See Figure 4).

In regard to Claims 44 & 45

- Wherein the output electrical conductor is a conductor rail (20, 21, 22, Figure 1).

Claims 42, 46, 48 & 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Yolozeki et al. (US 6,700,332).

In regard to Claim 42

A method of providing an electrical current to a plasma gas discharge application, the method comprising:

- Providing a plurality of current supply modules (11a-d, See figure 12a), wherein each current supply module includes an input terminal (connected to 12, See Figure 1) and an output terminal (to 14, Figure 12a) and each current supply module has a maximum output power;

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- Establishing an electrical connection between multiple current supply modules to form a current supply unit having a maximum output power that is greater than the maximum output power of the individual current supply modules (Said connection read on by 14a, 14b. The Examiner notes the previous discussion of Kirchoff's current law).
- Controlling the current supply unit with a control unit (34, See Figure 14); and controlling the current supplied by each current supply module through a data connection that connects the control unit to all the current supply modules of the current supply unit (See Figure 34, particularly the connection illustrated in dotted lines).
- Providing the output power of the current supply unit to a plasma load of a plasma gas discharge application (See Column 1, Lines 42-49).

In regard to Claim 46

- Inserting the control unit into only one of the current supply modules (See Figure 14, the control unit is inserted via the data connections illustrated with dotted lines).

In regard to Claim 48

- Electrically connecting two neighboring current supply modules of the current supply unit at an output side with an output electrical conductor (See Figure 12a).

In regard to Claim 49

- Electrically connecting two neighboring current supply modules of the current supply unit at an input side with an input electrical conductor (See Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 21, 25, 38, & 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caruthers et al.

In regard to Claims 5 & 25

- Wherein a plurality of first current supply systems are electrically combined to form a first current supply unit having a first maximum power output and a plurality of second current supply systems are electrically combined to form a second current supply unit having a second maximum power output different from the first maximum power output. [The Examiner notes that Caruthers et al. teaches a particular embodiment wherein 4 converters are used (See figure 1) however states in the specification that any number of converters could be used (See Paragraph 10). In the case where n = 5, then a first unit is formed with an

output of 750KW comprising 26a-c and a second unit is formed comprising 500KW with 26d plus one more unit.

It would have been an obvious matter of design choice to include 5 converters, since such a modification would have involved a mere change in the size of a component is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

The motivation would have been to provide enough converters to adequately supply a load.

In regard to Claims 21, 38, & 39

Caruthers et al. teaches an input and output electrical connectors (34 and the connection to filter 18 however fails to explicitly state said electrical conductors being identical in construction (eg. material) however it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the same material and conductor at the input and output, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

The motivation would have been to use identical conductors for the input and output to simplify construction by reducing the number of different parts.

Claims 15 & 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caruthers et al. in view of Brand et al. (US 5,694,312).

Incorporating all arguments above, Caruthers et al. (hereinafter referred to as Caruthers) teaches a current supply system but fails to explicitly teach said system disposed in a switching cabinet.

Brand et al. (hereinafter referred to as Brand) teaches a power supply system built in a switching cabinet (See Figure 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the current supply system of Caruthers into the switching cabinet of Brand. The motivation would have been to provide a means to adequately build and support the current supply system while protecting the components and providing access, as the switching cabinet so allows.

Claims 1, 17, & 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toy (US 6,191,500) in view of Caruthers et al.

In regard to Claim 1

A current supply system comprising:

- A plurality of current supply modules (UPS#1-4, See figure 3), wherein each current supply module includes an input terminal and an output terminal and each current supply module has a maximum output power, and wherein multiple

current supply modules are electrically combined to form a current supply unit having a maximum output power that is greater than the maximum output power of the individual current supply modules (See argument above in regard to Kirchoff's current law and parallel connected sources), wherein the current supply unit output power is configured to supply a plasma load of a plasma gas discharge application.

- A control unit connected to the current supply unit (See abstract).
- An output electrical conductor (370, Figure 3) for electrically connecting the current supply modules of the current supply unit at an output side; wherein the output electrical connector electrically connects the output terminals of two neighboring current supply modules.

The Examiner notes that language of "adapted to" and "capable of" performing a particular function is not a positive limitation but only requires the ability to so perform as in the case of "configured to supply a plasma load of a plasma gas discharge application" wherein the reference cited is configurable to be connected to a gas discharge application and therefore reads on the claimed invention. *In re Hutchinson*, 69 USPQ 138.

Toy teaches each UPS comprising a controller and a controller which controls the UPS modules however fails to explicitly teach a data connection connecting these controllers (which is inherent).

Caruthers et al. teaches a data connection (30) for connecting the control unit to all the current supply modules of the current supply unit (as explained above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the data connections taught by Caruthers et al. with the system of Toy who fails to explicitly teach said data connections. The motivation would have been to adequately provide a means for transmitting data control signals to the UPS modules and the controllers.

Toy further teaches:

In regard to Claims 17 & 36

- An interlock circuit for the current supply unit, wherein the interlock circuit is adapted for connection to the current supply modules of the current supply unit (See Column 18, Line 60 to Column 19, Line 20).

Claims 43, 50, & 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokozeki et al.

Incorporating all arguments above in regard to Claim 42, Yokozeki et al. (hereinafter referred to as Yokozeki) teaches using a plurality of supply modules but fails to explicitly teach wherein the supply modules have different power outputs.

It would have been an obvious matter of design choice to size the modules different, since such a modification would have involved a mere change in the size of

a component is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

The motivation would have been to provide enough converters to adequately supply a load.

Yokozeki further teaches:

In regard to Claim 50

- Reconfiguring the established electrical connection between the multiple first current supply modules to form the first current supply unit having another first maximum power output that is different from the first maximum power output
[The Examiner notes the connection of Yokozeki et al. is reconfigurable to form the first current supply unit having another first maximum power output that is different from the first maximum power output].

In regard to Claim 51

- Wherein reconfiguring comprises changing the electrical connection between the multiple first current supply modules [The Examiner notes the reconfiguration can be achieved by adding an electrical connection and unit 11 (See figure 12a), an alternative being to change the electrical connection of 11c to connect to 14a, See Figure 12a].

Claims 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokozeki et al. in view of Meyer.

Incorporating all arguments above, Yokozeki teaches inserting a controller via data connections but fails to explicitly teach a receptacle in which to insert said connection.

Meyer teaches a data receptacle (29, See Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the data connector taught by Meyer into the device of Yokozeki. The motivation would have been to provide a means well known in the art, as are connectors, for attaching the controller.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

September 17, 2007



MICHAEL SHERRY
SUPERVISORY PATENT EXAMINER